

### **Amendments to the Claims**

This listing of claims will replace all prior versions, and listings of claims in the application:

#### **Listing of Claims:**

Claims 1-14 (Canceled)

Claim 15 (Currently Amended): A pulse height analyzer for determination of pulse height distribution of electronic pulses, comprising:

a set of comparators provided with a common input, for analog to digital conversion of the electronic pulses into converted pulses,

a set of latches wherein inputs of the latches are connected to outputs of respective comparators for recording passage of corresponding threshold voltages by rising edges of the converted pulses,

a priority encoder connected to outputs of the latches for determination of pulse height categories consisting of converted pulses with a pulse height within pulse height intervals defined by the corresponding threshold voltages, [[and]]

a micro controller that is adapted to count a number of pulses within each of the pulse height categories, and

a current source for connection to electrodes contacting an electrolyte in two chambers mutually connected by an orifice for Coulter counting of particles, wherein the threshold voltages of the comparators are dependent on an actual value of generated electrode current, and whereby possible variations of the electrode current are substantially cancelled by corresponding variations of the voltage thresholds.

Claims 16-20 (Canceled)

Claim 21 (Previously Presented): A pulse height analyzer according to claim 15, wherein the current source is a constant current source.

Claim 22 (Previously Presented): A pulse height analyzer according to claim 15, further comprising a filter for filtering the electronic pulses to provide filtered pulses having a substantially constant delay from pulse start to maximum pulse amplitude, and for providing the filtered pulses as the common input of the comparators.

Claim 23 (Previously Presented): A pulse height analyzer according to claim 15, further comprising a filter for filtering the electronic pulses to provide an output signal containing filtered pulses with a DC-value substantially equal to zero.

Claim 24 (Previously Presented): A pulse height analyzer according to claim 15, further comprising a plurality of sets of comparators for pulse height determination of input electronic pulses of different amplification.

**Claim 25 (Previously Presented):** A pulse height analyzer according to claim 15, further comprising circuitry for resetting the latches a predetermined time period after start of a converted pulse, the time period being independent of the pulse height and pulse width.

**Claim 26 (Previously Presented):** An integrated circuit comprising the pulse height analyzer according to claim 15.

**Claim 27 (Previously Presented):** A field programmable gate array comprising the pulse height analyzer according to claim 15.

**Claim 28 (Previously Presented):** An application specific integrated circuit comprising the pulse height analyzer according to claim 15.